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Original Lectures.

DISEASES OF THE RESPIRATORY ORGANS IN CHILDREN.

BEING A COURSE OF LECTURES PREPARED FOR DELIVERY DURING THE SPRING SESSION OF 1862 IN THE COLLEGE OF PHYSICIANS AND SURGEONS, N. Y.

BY THE LATE

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PART II.

ATELECTASIS.

Atelectasis, of course, appears in the infant immediately after birth, and according to its extent with more or less intensity in the symptoms. The child has probably, to all appearance, been still-born, but yet by some effort has been resuscitated. The vital processes, however, are not well performed. The temperature of the skin is lower than it should be, and perhaps even falls lower still in a short time. Its color is pale, the face, particularly the lips, having the lividity of asphyxia. The child, moreover, is dull—it sleeps even more than newly born infants are accustomed to. Instead of a loud, hearty cry, it has a wailing kind of a whimper from absolute want of breath. It sucks with great difficulty, and if much of the lung be involved, not at all. The pulse is weak and languid, the bowels inclined to constipation; and if there be not sufficient trouble to destroy life at once, the infant pines and becomes feeble and emaciated.

If we now direct our attention to the respiratory organs, what do we find? The first thing that strikes us is that respiration is imperfect, incomplete, and intermitting. There may be also a slight cough. The chest is hardly at all dilated, whereas, though in healthy infants the respiration is chiefly abdominal, the movements of the thorax are quite marked. The ear applied to the chest hears but little air entering, and vesicular breathing may be indistinguishable; while, as you would naturally suppose where there is solidified lung, percussion is dull. As the symptoms advance, the dusky hue of the skin increases, and its temperature grows colder. The difficulty in sucking becomes greater, and the voice more wailing and fainter. Presently a slight twitching is observed about the corners of the mouth, or in some portion of the face, which in the course of a few hours develops into general convulsions.

These convulsions are brought on by the slightest causes —rapid movements or changes of posture even; and during their existence the respiration is extremely labored. These symptoms increase, and finally the infant dies of apnœa; or else, if there is not sufficient atelectasis to produce immediate death, nutrition is interfered with. The child cannot obtain sufficient food during its efforts to suck; the blood is not properly aerated; it becomes languishing and emaciated, and finally ceases to live, because it can obtain nothing to live upon. If you make a post-mortem examination in a child that has died with these symptoms, you will find the appearances which have been already described—lobules condensed, depressed below the surface of the lung, of a dark red or violet color, sinking readily in water, and cutting like a piece of flesh. If the lung be inflated, these unexpanded portions will be distended with more or less difficulty, and on being filled with air will assume the color, the crepitation, and the friability which are found in normal pulmonary tissue. They are usually met with in the lower edge of the upper lobes, the middle lobe of the right lung, and the posterior part and lower edge of the lower lobes. The pulmonary vessels generally contain less blood than usual, the foramen ovale is open, and the ductus arteriosus imperfectly closed. There may be also congestion of the brain, and anæmia of most if not all of the other organs of the body. Collapse of the lung is not, however, necessarily congenital. It may and does occur at all periods of life, doing most mischief at the two extremes. It is a not uncommon complication of all debilitating diseases, and of bronchitis and hooping-cough especially. The pressure of pleuritic effusion, which squeezes the lung against the ribs and vertebral column, packing it in the smallest possible space, and forcing out all the air, causes the same description of carnification: though the result of pleuritis does not come properly under the head of collapsed lung. It is most frequently caused in children by the respiratory powers, or by an obstacle to the breathing found in the lungs themselves. During the course of any prostrating disease, such as infantile remittent, or such as typhoid fever in the adult, when the vital powers are slowly undermined, and the muscular force grows less and less with the progress of the disorder, a person may be absolutely *unable* to breathe. He has not strength enough to draw the air into his chest—the yellow elastic tissue tightens more and more around the pulmonary vesicles, drawing their walls closer and closer, expelling the air for ever from them, and finally killing the patient by suffocation. Or also during the course of bronchitis, accompanied by free secretion, the accident described by Dr. Watson may take place. "Small portions of tough and sticky mucus," he says, "are driven to and fro in the larger air tubes, during the alternate acts of respiration, or in the paroxysms of a cough. Mostly they are expelled by the cough which their presence provokes. But it may happen, and it often does happen, that during respiration, one of these pellets, forced strongly backwards in a tube which gradually becomes smaller and smaller, shuts up that tube and all the smaller branches that proceed from it beyond the place of the obstruction. In expiration the plug moves a little outwards again, so as to allow a part of the imprisoned air to escape; but returning in inspiration, it does not allow any fresh air to enter. Repetitions of this process exhaust, or nearly exhaust, the air from the portion of lung thus mechanically sealed up. The portion of lung so exhausted suffers collapse." (*Prac. of Physic.*)

The symptoms of this species of atelectasis are very similar to those of the congenital form of the affection. The dyspnœa, however, is sudden in its access, and accompanied by a distressing, dry, barking cough, which is generally worse at night than in the daytime. The respiration is very rapid, and the inspiration is longer and more marked than the expiration. The pulsations of the heart are quickened in frequency, and increased in force; so much so, indeed, as sometimes to produce hypertrophy. If the child be stripped, and its thorax examined, its movements present one of the most remarkable symptoms—its cavity, instead of being increased, is in fact diminished during inspiration; the convexities of the ribs are not rotated outwards as they should be, but these bones are drawn inwards and backwards towards the median line, protruding the sternum slightly, and causing a motion said to be diagnostic of this state of the respiratory apparatus. With all this there are evidences of an enfeebled state of the system. Animal heat is not easily generated; nutrition is not well performed. There is generally an irregular condition of the bowels, shown either in a disposition to constipation or in an exhausting diarrhœa. Auscultation and percussion give positive evidence of the existence of this abnormal state of the lungs: for if you apply your ear to the chest, you easily distinguish the absence of the vesicular murmur in the collapsed portion, and percussion gives you the dull flat sound which you know proves the existence of a solid body underneath. If the disease be of long standing, moreover, and if the subject be of a strumous constitution, that malformation may be produced which is known as "pigeon-breast." The atmospheric pressure externally is not counteracted by the presence of the air in the pulmonary vesicles; the ribs yield to the continued force exercised upon them, the sides of the thorax are flattened, the sternum is pushed forwards, and a deformity is created which you will often meet with in the poorer classes of our large cities. I need not dwell upon the pathology of collapse of the lung, as I have also mentioned

the post-mortem appearances to you. I will merely add that, in children who have lived for some time, while laboring under this trouble, you are apt to have the pleura thickened, the heart somewhat hypertrophied, especially on the right side, the abdomen tumid, with the venous trunks both external and internal enlarged. Of course, when you make such an autopsy, you will satisfy yourselves of the true nature of the violet-colored patches by inflation, which will cause them to assume their natural appearance.

The diagnosis of this affection is easy. You need not mistake it for any other disease. The only one with which it is likely to be confounded is phthisis, which, while it has points of similarity, is also in many respects different. Phthisis does not appear so early as congenital atelectasis, nor does it advance so rapidly; it has a febrile action too, which is wanting usually in the latter. The suddenness of the dyspnœa in the acquired form, the fact of some other malady preceding it, the extreme debility, and the respiration labored in its character, and accompanied by the lateral *contraction* of the walls of the chest, will plainly announce to you with what you have to deal.

The prognosis is doubtful, and in giving it you will be guided by many circumstances. It depends chiefly upon the amount of lung involved. In children born with an imperfect respiration we may hope by prudent and timely treatment to overcome it; and we may find sometimes that the constitution becomes in a degree familiarized to it, so that the infant may even thrive—an amount of dyspnœa which is distressing to the spectator interfering but slightly with the child's habitual cheerfulness. If the collapse comes on in the course of an exhausting disease, still more enfeebling the patient, or if a plug of tenacious mucus fills up one of the larger divisions of the bronchi, the danger is imminent, and the result very likely to be fatal.

In detailing the treatment of atelectasis allow me to impress upon your minds the necessity of being careful to establish proper respiration in the child at birth; for, if this were more attended to, it is not improbable that fewer cases would be met with. The various stimuli which are unavoidably applied to the infant's skin—the cold air for instance, and the manipulations of the nurse—generally, but not always, effect this for you. If the child be apparently still-born, recourse must be had immediately to artificial respiration, and I know of no prompter, more effectual plan than Marshall Hall's "Ready Method." If, however, the child breathe, but breathe feebly, and the cry be whimpering and weak, we must apply stimulation in the shape of slight taps, sprinkling with cold water, frictions to the back, warm baths, and the other remedies familiar to the obstetrician. Your efforts are so continued, either until you are satisfied with their success or are convinced of their inutility. Failing to establish healthy action of the lungs at birth, you must have recourse to other means, and will pay close attention to the hygienic surroundings of your patient. In the first place, as the warmth of the body is at so low a standard, and continually liable to sink, you will be solicitous not only to envelop the child in warm and soft wrappings, but also to maintain the temperature of the room at 50° or 80°; a warm bath at about 100° will also aid you. The child should not be left in it more than five minutes at a time, and on being taken out should be received in heated flannels. The nutrition of the infant is a point of equal importance with a preservation of its animal heat; for you will remember that generally it is unable to suck, and the effort to do so only exhausts its strength. The mother's milk is, of course, in all cases the best aliment; it may be drawn from the breast, and administered by a spoon; in bad cases a few drops of brandy may be added.

In cases of acquired collapse of the lung you will be guided by the same principles, inasmuch as the disease sometimes arises from the neglect of these very precautions. When your patient has been weaned the diet must be good, plain, and nutritious, meat once a day being allowed, with milk as a beverage, but neither vegetables, pastry, nor fruit. In no disease of childhood can you pay too much attention to hygiene, the very delicacy of the infantile constitution affording you a powerful means of combating morbific influences by placing the subjects of them in fit sanitary circumstances. Having seen that nature is thus brought to your assistance, and a fair opportunity given for her operations, you may then turn to your pharmacopœia, and apply what remedies medicine may yield to you. Among these, stimulants will occupy the first rank. Stimulating liniments—such as camphor or soap liniment—or, more effectual still, turpentine stupes, may be used once or twice a day upon the back and chest; if the case be very bad, ammonia, ether, or brandy in sufficient doses may be given internally, while emetics, by the deep inspirations which accompany the act of vomiting, will help in dilating the unexpanded vesicles, and will clear the bronchi of mucus which may have accumulated in them. A mixture of ipecacuanha with nitre, hyoscyamus, and sulphate of magnesia will answer the triple indication of acting on the skin, the kidneys, and the bowels. As the child improves tonics may advantageously be substituted for stimulants, particularly some of the forms of cinchona; and finally, where there is any disposition to "pigeon-breast," the recumbent position on a firm unyielding surface is to be insisted on. If by these measures you succeed in your object, you will have done a very laudable thing, for you will have saved a life. But in rescuing an infant from one morbid condition you do nothing more, in fact, than put it in a position in which it is liable to others, one of which, in the course of childhood, youth, maturity, or old age, must infallibly destroy life; and before puberty you will meet your most persevering and deadly enemies among the disorders of the respiratory apparatus. Some of them are so fierce in their onset, and so rapid in their progress, as to be utterly beyond your control from the very first; others so insidious in their attack as to escape your observation until your science and care are of no avail: while, as you gain experience, you will also gain the habit of incessant vigilance; for you will discover that accurate knowledge of the earliest and slightest symptoms is an absolute necessity to the medical practitioner. Notwithstanding the delicacy of the mucous membrane in children—a delicacy rendering it extremely apt to take on disease, susceptible to irritating causes—it seems during the first month or two, as far as respiration is concerned, to be limited to the Schneiderian membrane. Acute inflammatory disarrangements of the lungs during this period are comparatively uncommon; while coryza, or inflammation of the lining membrane of the nostrils, is not infrequent. The vitality of very young infants is exceedingly feeble, and their mucous membranes probably not so vascular as they afterwards become, for the same indisposition to acute disease it manifested in the gastro-intestinal system. However this may be, coryza, which, as you know, is a trifling ailment to the adult, sometimes becomes a serious one in the infant. It is known among nurses by the elegant title of "the snuffles," and in the higher walks of society by the more refined name of "nasal catarrh." It is caused by cold taken in washing, or from exposure, from damp air, from the chilling of the extremities by the urine if frequent changing is neglected. Perhaps a predisposing cause is the great transition from the warmth of inter-uterine life to the variable temperature of the outside world; it may also be produced by the heat of too strong a fire, or by the action of the sun, being also a concomitant of some of the exanthemata. In winter and spring it occasionally assumes an epidemic form; then, however, principally affecting children of an advanced age. The disease commences with some degree of fever; the infant is uncomfortable, heavy, and cross; children old enough to express their sensations complain of soreness of the nose, headache in the frontal region, and uneasiness of the back and limbs. There is suffusion and tenderness of the eyes, heat of skin, and in many cases acceleration of the pulse. These symptoms

are usually preceded by frequent sneezing, and by a snuffling sound which accompanies breathing through the nose, and which gives to the distemper its vulgar but descriptive name. At first there is a discharge of a thin, acrid mucus from the nostrils, excoriating the upper lip, but which afterwards becomes thick, yellow, or yellowish green, and, it may be, purulent. The lining membrane of the nasal fossæ is tumefied, unusually vascular, and peculiarly irritable; at first dry, but as the disease progresses secreting the yellowish mucus already spoken of. The sense of smell during the first stage is lost. If the flow from the nostrils be profuse, not only great discomfort but also great danger may be the consequence. Respiration through the nose being attended with difficulty, or the nostrils being closed by the combined effects of the swollen membrane and the tenacious mucus, the child becomes unable to suck, of which you may convince yourselves by the simple experiment of imitating this act while pinching your nostrils together. As often as it is presented to the breast it withdraws in despair, expressing by its violent cries the deprivation which it suffers. In such cases the mouth being kept open in order to obtain the necessary supply of air, the dryness of the tongue and fauces aggravates the discomfort. The attack is at its height about the third or fourth day, when the symptoms begin to subside, the feverishness diminishes, the discharge from the nose grows more scanty, the swollen membrane loses its tumefaction, and the patient recovers with a liability to a renewal of the disease with a fresh exposure to cold.

Original Communications.

ON THE USES OF OPIUM,

IN MANAGING THE

SHOCK AND REACTION OF SURGICAL INJURIES.

By EDMUND S. F. ARNOLD, M.D.,

OF YONKERS, N. Y.

(*Concluded from page* 232.)

I now go on to another class of cases where there is but little pain and but small hope of any natural reaction; I mean in those terrible accidents where, perhaps, although no vital part is involved, the injury is nevertheless very severe, and the powers of life have been so lowered by the shock and excessive hæmorrhage that the unfortunate victim of casualty is momentarily threatened with death. What is to be done then? I believe there is sufficient evidence to prove that opium is still our best remedy. Combine it if you will with others, but even without them it will effect more than all of them combined. True, we cannot here avail ourselves of its narcotic or sedative powers, but we may of its stimulant, of its reviving and sustaining properties. In an article on the uses of opium in midwifery (Braithwaite, No. xxi., p. 307) Dr. Lever, after speaking of its acting like a charm, while stimulants are administered with judgment, in the anæmic form of convulsions, associated as they are not unfrequently with large losses of blood; while testifying to its value, when a woman is reduced almost to the last gasp by uterine hæmorrhages, given in full and frequent doses; insists also on its efficacy in cases where the uterus or vagina is lacerated, and says: "I have seen such cases treated by administration of full doses of opium, repeated at varying intervals for several days, and then terminating successfully." "To one woman I was called," he says, "where there was a band in the vagina, the result of a previous delivery; in this case the laceration was so extensive that the hand could be passed into the abdomen. Although the patient appeared to be dying, although the last rites of the church were administered, she rallied, recovered, and is still alive." Now here was all the collapse from the shock of a terrible lesion, superadded to exhaustion by hæmorrhage, as much as occurs in great surgical injuries, yet, so far from narcotizing, full doses of opium rallied and saved the patient. In the case of the boy Whitefield (aged 11), alluded to in a former pamphlet of mine, involving in the left leg a primary amputation below the knee, a fracture of left thigh, compound fracture of both bones of right leg, compound fracture of right great toe, and a severe scalp wound, a teaspoonful of laudanum was given on the first signs of severe pain, and repeated as often as recurrence of the same rendered it necessary—on an average about twice in the twenty-four hours—for several days, and he went through the period of reaction with as little suffering or excitement as occurs after any simple case of fracture, his pulse hardly once rising above 100. True, I gave it only with the idea of allaying pain, believing that the boy would certainly die; but it has appeared to me since, from manifold evidences, that it was because the right remedy was employed at the right time that success was achieved.

I believe that it is precisely during collapse, or where reaction is just setting in, that in the hands of the surgeon the virtues of opium are most conspicuously available. Whether that condition be induced by any of the ordinary accidents of life, by wounds on the battle-field, by the shock of severe surgical operations, by free or too copious venesection, or in obstetric practice by severe hæmorrhage—for in all these the system is brought down to or below the starting point of reaction—it will, as we have seen, by its nicely blended stimulant and sedative qualities rouse the nervous energies, restore the pulse, free the capillary circulation, then control abnormal action, soothe pain, allay constitutional irritation, and prevent inflammation. This beneficent action covers not only the most important period of time in the history of the case, but will materially influence the whole after progress of it.

I speak of the phenomena of shock and reaction as being similar in essentials in all cases, as marking a condition *per se*, and as differing only in intensity or duration proportioned to the severity of the injury causing them. The shock in all cases a morbid impression made on the organic nervous system, temporarily so depressing it as to paralyse its functions, and with them the vital actions dependent upon its healthy influence, thereby extending its effects to the entire system. Reaction, the recoil or rebound from this state, whereby action is not only restored but passes beyond healthy bounds, and in proportion to the previously unnatural depression becomes unduly exalted, as manifested by fever and constitutional irritation. In proportion, then, as we can succeed in lifting the patient over the shock and in keeping down the reaction within healthy limits, in other words, as we can succeed in restoring and maintaining the tone of the organic nervous system, will the dangerous consequences of reaction be avoided, and the reparative processes be carried on in a healthful manner, the system becoming daily less sensitive and more reconciled to its altered condition, until in a few days all primary dangers are past. Let, on the other hand, the reaction go on unchecked to a certain point, and pain and inflammation and constitutional irritation will set in. The local excitement or activity, which in moderation favors and promotes reparation, when carried to excess becomes disorganizing and destructive, threatening loss of limb, and if a vital organ is involved, loss of life. Again, as reaction advances we seem proportionately to lose the benefit of our sheet-anchor, opium, inasmuch as vigor is restored the dangers of over-stimulation and narcotism are increased by its free use. We must look for sedatives, then, elsewhere than in opium, at all events as a main remedy, though in conjunction with others its occasional exhibition will be frequently useful.

Considering that in the shock of an injury we have a morbid depression of the organic nervous system paralysing the very mainsprings of vital action, and consequently of reparative action, and that until the tone of the organic nervous system is restored and its healthy in-

fluence re-established, reaction, or renewed vital manifestations, will be irregular and tumultuous and inefficient for healthy reparation (hence the great value of opium at once as a nervous stimulant, and as an equalizer of nervous and arterial action); I believe that when the organic nervous system has recovered its normal status the general equilibrium of the vital forces will be restored, and the system placed in the best possible state for the exertion of reparative efforts; that by the time the equilibrium is restored the system will have become accustomed to and tolerant of the morbid impression, and that the worst dangers of reaction will have passed, not to return. I am further led by the evidence above afforded to the following conclusions:—

1st. That when by the shock of a severe injury, especially if accompanied by excessive hæmorrhage, the powers of life are reduced to the lowest ebb, the patient may frequently be rallied, when all other remedies are of no avail, by the stimulating and reviving powers of opium, administered at short intervals in moderately full doses of from one to two grains, or of laudanum in drachm doses or more.

2d. That the state of nervous exhaustion and exsanguine condition of the system establish a full tolerance of the drug in proportion to their extent.

3d. That in proportion as the vital powers are less reduced the administration of opium during the shock becomes unnecessary, and will be fraught with more danger, and that it will be proper, therefore, to rely in part or wholly on other measures in ordinary use, such as warmth, friction, diffusible stimuli, etc., according to the circumstances of the case.

4th. That where reaction is indicated by returning sensation and pain, opium is an invaluable agent for controlling it and preventing its excess, regard being had to the conditions under which a tolerance of it is established.

5th. That when by general prostration induced by the severity of the injury, or by previous hæmorrhage, or by venesection, tolerance of opium has been established, the allaying of pain may serve as a guide as to the extent to which it shall be given, and that it may then be safely carried to any extent necessary to accomplish that result, inasmuch as by its effect on the sensitive nervous system we are able to estimate and gauge its influence on the organic; and further, that the system should be kept under its influence until the reactionary dangers are past, by re-administering it as often as the recurrence of severe pain renders it necessary.

6th. That by its powers of rallying and supporting the nervous energy, allaying irritation, freeing and equalizing the circulation, and keeping it within bounds, the system is placed in the best possible state for the exertion of the reparative process.

7th. That as soon as this has been established in a healthy manner the opiate may be gradually withdrawn, and the case treated on general and established principles according to the phases it may assume.

8th. That in proportion as reaction has advanced, and inflammation and constitutional irritation have set in, the free use of opium will be contra-indicated, unless the inflammation be previously removed by bleeding.

It may be a question as to how far the above will apply in cases of injury of the brain. If the dangers of narcotism are in an inverse ratio to the extent of the vital depression, and if opium really possess the property of freeing the capillary system as well as equalizing and controlling the general circulation, then I see no reason why it should not operate as favorably in brain lesions as in any other class of cases.

In conclusion, if the question I asked at the commencement of this article can be determined, as I trust and as there is reason to think it may, great would be the advantage to patient and medical attendant alike. Not only would the safety of many a one now lost after great and exhausting operations be secured, not only might the energies of the almost expiring victim of the battle-field or railroad track, wherever indeed we have organized help, be rallied and sustained until other measures could be taken for his relief, but we should be enabled to step forward in cases of casualty where the miseries of a lifetime appear to be crowded into a few short hours of agony, and adopt bold measures, calculated as much to avert future dangers as to allay present suffering; moreover, by the prevention of such dangers it would often be placed in the power of any practitioner of ordinary judgment and ability, though perhaps of limited experience, to command success in cases which now tax in vain the skill and ingenuity, indeed all the resources of the most accomplished practical surgeons.

NOTES ON MEDICAL JURISPRUDENCE.

By THOMAS C. FINNELL, M.D.,

OF NEW YORK.

II. POST-MORTEM EXAMINATIONS.

In conducting post-mortem examinations the question will naturally arise as to whether the investigation is required for the purpose of clearing up some obscure pathological condition, or whether it is needed as medical testimony to be placed before a court and jury. In the former case we proceed at once to inspect that portion of the body which, during the lifetime of the individual, was the seat of supposed morbid processes. With their discovery and the evidences of congestion, inflammation, or the products of these processes, all our interest in the affair ceases; except it be comparing the changes observed with the symptoms during life. Should the autopsy, however, be required for medico-legal purposes, it will be necessary to pursue a very different course. And first, let it be clearly understood who is to conduct the investigation. This is a matter of some importance, and should not be passed over lightly, for it frequently happens that several medical gentlemen are invited to be present at the examination, and as a matter of courtesy, they are requested to lend such assistance as the case may demand. This often leads to confusion, and sometimes to unpleasant misunderstandings, all of which could be easily avoided by a proper arrangement at the onset. We are of opinion that all the details connected with the autopsy should be intrusted to one person who should act as principal, and be held responsible for a written history of all the particulars. It is an easy matter for him to assign portions of the labor to any gentleman present, with the understanding that as each part is exposed it shall be examined and inspected by all present. By adopting this plan a full opportunity will be afforded to all present to form their own opinion of such pathological changes as may be discovered. On the other hand, when the autopsy is conducted by several gentlemen, each investigating a part for himself, it is evident that he feels but little interest in closely observing such changes as are discovered by his neighbor; doing his own part well, he leaves the others to follow the same example. The result is, an imperfect and unsatisfactory history is obtained, leaving a wide scope for differences of opinion in relation to the true cause of death. What is congestion to one is normal to another; and so with the evidences of inflammation, some seeing its traces very distinctly, while others fail to discover any proof of its existence. It is almost unnecessary to state that alterations in color, texture, and consistency, often require an experienced eye to determine their existence. In presenting this matter to your readers we may appear to dwell on points of trifling importance, and yet they are far from being so, when subjected to the test of daily experience. The details of a post-mortem examination are apparently very simple, until the attempt is made to carry them out; many difficulties are then experienced which might easily be avoided by a little fore-

thought and good management. We are advised, in the performance of surgical operations, never to commence without having all our instruments prepared and in good order, as any neglect on this point might seriously affect the success of the operation; yet how often do we see autopsies undertaken with but little regard to the necessary implements; examples are no doubt familiar to your readers where, at the close of the examination, it was difficult and almost impossible to find a needle, an instrument at this stage of the proceeding of great value.

All authorities on medical jurisprudence insist on the importance of a careful inspection of the surface of the body as the first step in our investigation. A neglect of this simple rule is often attended with much annoyance to the medical witness who, on being interrogated as to the presence of bruises on the back, is often obliged to confess, "I did not examine it with care." We should constantly bear in mind that the slightest alteration in color, consistency, or change of texture, should be carefully noted down without reference to their bearing on the immediate cause of death. Appearances which may seem entirely satisfactory to our minds in explaining the direct cause of death may, when examined more closely by others, place the whole affair in a different light.

A mistake that is commonly made by those unaccustomed to post-mortem examinations, is a hasty conclusion that internal organic disease, whenever found, is the true cause of death. Such, however, is far from being the case, as these discovered lesions may have existed for many years, and caused the individual little or no trouble. How far they contributed to hasten the death of the party, will be a question for discussion when the appearances presented are compared with the symptoms at the close of life. It often happens that no history can be obtained of the condition of the person while living; we are then obliged to base our opinion on the cause of death from pathological changes of vital organs which are discovered at the time.

While the immediate cause of death may really be due to conditions of which we have no knowledge, the popular belief is, that an autopsy always will determine the true manner and cause of death, and it not unfrequently happens that medical practitioners are led to adopt the same opinion. The truth, however, is, that death may take place suddenly in persons of all ages and conditions of life, without leaving any evidence of pathological changes disagreeable to the eye of the pathologist, the microscopist, or the chemist.

Indeed, instances are not uncommon where the symptoms during life pointed to a particular organ as being involved; while the autopsy fails to discover the least change in texture, color, or consistence, that would explain the immediate cause of death.

Our purpose, however, is to call attention to the manner of conducting these investigations, and pointing out a few simple rules which may guide those who have not had much experience in these matters.

First. Carefully inspect the whole surface of the body, and note it down at the time.

Second. Determine which of the three cavities is to be opened first, the head, thorax, or abdomen.

Third. Place the cadaver on a high table, in order to prevent the stooping posture.

Fourth. Have plenty of light, one knife strong and sharp, a good saw, a triangular needle, three inches long, some cord, and a large sponge.

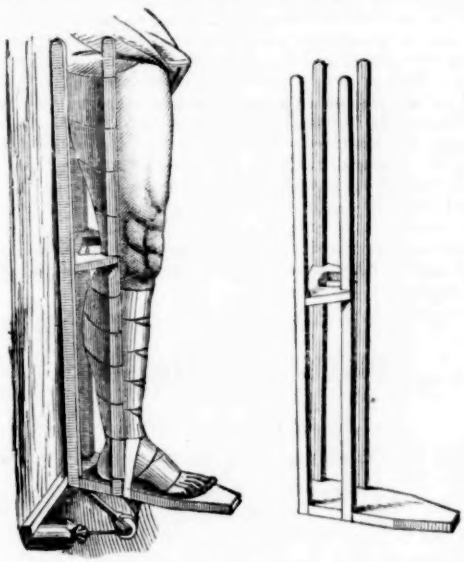
Fifth. Take full notes of all morbid conditions that are discovered: particularize organs that are healthy as well as those that are diseased.

It will be necessary to observe the above simple rules in all cases that come under our notice, whether death is caused by suffocation, drowning, poison, gunshot wounds, internal disease, etc., etc., etc.

A NEW APPLIANCE FOR THE TREATMENT OF COMPOUND FRACTURES OF OS FEMORIS.

By JNO. T. HODGEN, Surg. Vols.,
IN CHARGE OF CITY GENERAL HOSPITAL ST. LOUIS, MO.

Having experienced great difficulty in dressing compound fractures of the femur when the wound was on the posterior part of the limb, I at length devised the apparatus



(the application of which is described) to meet this difficulty.

The woodcuts show the construction of the cradle, so that I need only give the measurements and mode of application.

The foot-board is four inches and a half wide, one inch thick, and fourteen inches high (or long), supported on a base fifteen inches long and one inch square. The centre support is seven inches high, eight inches on the base, and one inch thick. The uprights of this portion are one inch wide at the top, and one inch and a half wide at the base; this piece is placed twenty-one inches from the foot-board.

The longitudinal strips are forty-two inches long, one inch and a quarter wide, and half an inch thick; one end of each of the four is fastened by screws to the foot-piece, two at the base, the remaining two above them, leaving spaces of four and a half inches between the lower and upper pieces. The lower strips are fastened to the outside of the centre support at its base, the upper at the inner side of the upright portion, thus forming the frame represented in the cut.

This may be adapted to either limb by binding the ends of the pieces designed for the perineum and pubes, the lower one from above, and the upper from below, and shortening them so that the foot will come near the foot-board—the upper strip passing in front of the pubes and the lower a short distance from the perineum.

Strips of cotton or linen cloth two and a half inches wide are now placed on the upper longitudinal bars, and pinned, so that they form a double inclined plane on which the limb may rest. These suspension strips are placed in contact with each other, and, being distinct, any one may be removed and replaced to insure cleanliness, when necessary, without disturbing the limb.

The limb is then prepared by placing broad strips of adhesive plaster on either side of the leg, and securing them in the usual manner by a roller. It is then placed on

the suspension strips, and the free ends of the adhesive plasters placed around the foot-board and secured to it. A strong cord is fastened to the middle of the foot-board at a proper height, and passed over a pulley which is to be screwed into the foot-board of the bedstead. A bag containing from five to twenty pounds of sand is attached to the cord, and this weight serves as an extending force. Two or more bricks are placed under each of the legs of the bedstead at the foot, thus elevating it four or six inches, and allowing the weight of the body to serve as the counter-extending force. Thus the limb is suspended so that the air circulates freely under and about it.

Since April, 1862, I have treated a number of patients, using this cradle, and find it simple and easy in its application, keeping perfect extension, never producing ulceration of the heel or excoriation of the perineum, allowing the use of the bed-pan without difficulty or danger of displacing the fracture. In compound fractures the wound may be dressed and kept clean without disturbing the limb; the part is always exposed, so that the surgeon may detect any displacement without disturbing the patient, and correct it without a complete undressing. It leaves the circulation free, and thus allows the process of repair to go on more rapidly than if the circulation was impeded by bandages.

Reports of Hospitals.

BELLEVUE HOSPITAL.

ANCHYLOSIS OF KNEE-JOINT.

TENOTOMY.—MOVABLE JOINT.

By DR. SAYRE.

[Reported by W. F. Peck, Senior Assistant to First Surgical Division.]

Elizabeth Prinder, æt. 32, native of Vermont, single, and by occupation a seamstress. She states that when seventeen years old she was attacked with a severe lancinating pain in the left knee, accompanying which there was considerable swelling, but without an undue amount of heat. These symptoms continued without any serious impairment of her general health more or less for three years, when they gradually disappeared. She was treated with cupping, blisters, and a double inclined plane which confined her limb in an almost rectangular position. When the splint was removed the hamstring muscles were found to be permanently contracted, so much so that when she stood erect the leg was at a right angle with the thigh. She was admitted into the hospital, January 28, 1863, when the following was recorded:—General health excellent, well formed, and muscular system well developed save in the deformed member. The left leg is flexed at a right angle, and the hamstring tendons permanently contracted; patella adherent by bony adhesions to the outer condyle of the femur. There is moderate absorption of the outer articulating surface of the femur, in consequence of which the inner border of the foot, when placed on the floor, touches first. No pain, and complains of nothing save the deformity.

Dr. Sayre operated upon her on the day of her admission before the class, by forcibly breaking off the patella attachments and then subcutaneously dividing the contracted tendons. This being accomplished an extra amount of force succeeded in extending the diseased leg on a line parallel with its fellow. The wounds made by the tenotomy knife were treated as usual; immediately closed with adhesive plaster.

The limb was then enveloped in cotton, with a sponge in the popliteal space, and a compress about six inches in length placed over the course of the femoral artery so as to partly arrest the supply of blood to the joint, and placed in an instrument devised for the purpose.

The instrument consists of a shaft on both sides of the leg, extending from the malleoli up to the middle third of the thigh, with a ratchet-wheel at the knee for the purpose of practising passive motion, which is done by means of a key. The bars of steel are retained in position by means of four circular bands of padded leather straps. The leg being placed in the instrument it was retained by a firm compress over the patella, and the compress secured by rollers. Irrigation of cold water to knee and, S. s. morphine, U. S., ℥j., to allay pain.

Jan. 29.—Somewhat exhausted; pulse and respirations normal. Had some pain in knee during the night; very little this morning; no appetite; bowels constipated. On Feb. 5th the leg was placed in a fracture-box so as to give support to the foot. On the 7th the apparatus was removed. No synovitis has followed the operation. There is, however, some ulceration over the patella, produced by the firm pressure made when the instrument was applied. The joint admits of motion, though very little is permitted. She has no pain except that which the ulcer produces. The instrument was left off, and a lateral leather splint extending from just above the internal malleolus up to within three inches of the attachment of the gracilis. Ulcer over patella dressed with simple cerate. Functions well performed. She has not experienced any pain or uneasiness above the joint. The leather was removed, the instrument applied, and passive motion made. On the 16th the dressings removed, and passive motion again made; ten inches' motion at the foot; no evidence of inflammation in or above the joint; ulcer over patella closed. The leather is to be removed at night, and extension by means of a weight and pulley kept up for the purpose of guarding against the tendency to flexion. March 24.—Passive motion has been practised every morning since last record. She now has fourteen inches' motion at the foot, and walks about with the aid of one crutch; patella movable. May 4.—The instrument has been applied daily, and she now has eighteen inches' motion at the foot; walks with the aid of a cane. The long leather splint is to be entirely removed, and a piece of leather five inches wide and twelve inches long is to be applied behind the knee, to give support in walking. She has a moderate amount of voluntary extension, though it is limited.

Returned to her home, Auburn, N. Y., the day following.

Reports of Societies.

NEW YORK PATHOLOGICAL SOCIETY.

Stated Meeting, Dec. 10, 1862.

DR. T. C. FINNELL, PRESIDENT, IN THE CHAIR.

OPERATION FOR HERNIA, REMOVAL OF HYPERTROPHIED OMENTUM.

Dr. Little presented a specimen of hypertrophied omentum weighing five and a half ounces, which he had removed in an operation for strangulated hernia. He gave the following history:—William Murphy, an Irishman, 33 years of age, patient, has suffered from inguinal hernia of the right side for many years. Until three years ago, the hernia was entirely reducible; since that time, a portion has been irreducible. Patient has been in the habit of wearing a *truss*, for the purpose of preventing the reducible portion from coming down. Several times the hernia has become strangulated, but it has always been reduced by taxis: twice at the Bellevue Hospital, and several times at his own house. Last Friday, Dec. 5th, it again became strangulated. A doctor was called in, who, failing to reduce it, advised an operation. To this the patient would not consent. Yesterday, Dec. 9th, Dr. Hadden was sent for at the North-Eastern Dispensary, and I accompanied him to see the patient, whom we found suffering from the following symptoms:—Constant vomiting of stercoraceous matter, pain in the abdomen, no movement from the bowels *for six days*. Pulse 120. The hernial tumor was about the size of my two fists, swollen and œdematous, tender on pressure, with

some redness over its surface, dull on percussion. The abdomen was moderately distended, tympanitic and tender on pressure, the tenderness being more marked in the vicinity of the tumor. This condition of things led me to advise that an operation be performed at once, to which Dr. Hadden agreed, and kindly allowed me to operate. Dr. Brush administered ether, and Dr. Hadden, and Dr. Roby, House-Surgeon of the Soldiers' Home, assisted me during the operation.

The coverings of the hernia were carefully divided down to the sac. On making a small opening into the sac about an ounce of clear serum made its escape. The sac, which was very much thickened, was then carefully opened, and it was found to contain a large pedunculated mass, at the lower end of which there was attached a small portion of healthy-looking omentum, the other extremity whereof was attached to the sac by a strong adhesion. The mass was intensely congested, being severed with swollen veins of considerable size, resembling a varicocele. The finger could readily be passed upwards alongside this mass through the abdominal ring into the cavity of the abdomen; on pulling down an additional portion, it was found to be connected with the omentum, and it was, therefore, supposed to be hypertrophied or thickened omentum—that portion which had been irreducible for many years, and over which he had worn a truss. A strong ligature was tied around it as high up as possible, and it was cut off. This mass weighed five and a half ounces. The remaining portion was pushed back just within the abdomen, the ligature being allowed to pass out of the external wound, which was then closed by a few sutures, and cold water dressings applied.

The patient passed a quiet night, and at four o'clock this morning, twelve hours after the operation, he had a movement from his bowels for the first time in six days, during which time he had taken several purgatives and enemata without any effect. At ten o'clock this morning a warm water injection was administered, which was followed by a very free evacuation from his bowels. No vomiting occurred after the operation. The patient's abdomen is still tympanitic, with considerable tenderness on pressure. Pulse 120. This A.M. there was considerable swelling about the wound, and several sutures were removed in the part most depending to facilitate the discharge of any matter that may accumulate. At three o'clock this afternoon he had another movement from his bowels. He is under the use of moderate doses of opium, and warm flaxseed poultices are kept constantly applied to his abdomen.

The subsequent history of this case is as follows:—Dec. 11th—ten A.M. Pulse 136. Respiration 18. Tenderness more severe in the vicinity of wound. The remaining sutures were removed, the parts about the wound being found considerably swollen. Patient takes one grain of opium every two hours. Ten drops of veratrum viride were given, and repeated in an hour. Six leeches were applied over the abdomen in the vicinity of the wound. At five P.M. pulse 120. Bowels moved. No vomiting since the operation. Continued opium one grain every two hours. Dec. 12th—eleven A.M. Patient under the influence of opium. Respiration ten in a minute. Pupils contracted. Pulse 110. Tympanitis seems to be increasing. The wound looks well. Patient complains of pain over the abdomen, and a blister applied. Dec. 13th—Pulse 106. Respiration 14. Enema given, and followed by a discharge of *fæces*, and large quantities of *flatus*. Tenderness over abdomen diminishing. Patient has a severe cough with pneumonic sputa, which troubles him very much. Ordered cough mixture, containing hydrocyanic acid. Opium to be discontinued. In the evening patient was much improved, cough having abated. Ordered beef-tea.

From this time patient continued to improve. Twenty days after the operation the ligature came away. On the ninth and tenth days patient had a chill, which was followed by profuse sweating, which, pointing towards pyemia, caused some little anxiety. The chills, however, did not recur, and patient gradually improved, and in eight weeks after the operation he called on me with the wound entirely healed.

Dr. Post presented a sequestrum removed from a patient four years of age, the disease having existed for two years. The specimen was interesting in connexion with the age of the patient from whom it was taken. Dr. Post had never seen a similar case before.

Dr. Voss remarked that he had then under treatment a child not over ten months old, in whom there was necrosis of the middle of the tibia. He proposed to operate upon it in the course of a few days.

COMPOUND COMMINUTED FRACTURE OF FEMUR—EXSECTION.

Dr. Merritt presented portions of bone which he had excised from the thigh of a patient who had received a minié ball wound.

A private, aged 22 years, of the New Jersey Volunteers, was wounded in the battle of Chickahominy on the twenty-seventh of June last, by a minié bullet, which produced a compound comminuted fracture of left thigh. After the receipt of injury he was subjected to the well known hardships, ill treatment, and rough transportation consequent upon the falling into the hands of the enemy and conveyance to Richmond. He stated that no surgical treatment had been applied to his wound, except the cold water dressings. He was admitted into the Hospital "Euterpe" on the sixth of August, and presented the following conditions:—There was a compound comminuted fracture of the femur located within the limits of the middle third of the thigh. The point of entrance of the bullet was at the anterior limit of outer aspect of thigh, about equidistant from the prominences of trochanter major and external condyle of os femoris, and the point of exit was at the inner limit of the anterior aspect of thigh, in a directly transverse course from the point of entrance, and these points were three and a quarter inches distant from each other. There was great mobility at the seat of fracture, and moderate swelling of the limb. The opening caused by the exit of the bullet was closed, but the opening of entrance was patulous, and discharged profusely a fetid ill formed pus, mixed with grumous clots of blood. Explorations through the orifice of entrance of bullet with the finger and probe detected the presence of several fragments of bone of considerable size, apparently attached and not readily moved. The surrounding tisues were not much disorganized, so far as reached. The general physical condition of the patient was fair, and his morale excellent, when considering the character of injury, the circumstances of the severe ordeal through which he had passed, and the interval of forty days since the receipt of injury. It was his firm determination not to suffer amputation, but he earnestly entreated to have the "loose bones taken out." I accordingly decided to perform the operation of exsection, which I proceeded to do on the tenth of August. After etherizing the patient a straight incision five and a half inches in length was made in the outer aspect of thigh, opposite the seat of fracture. When the bone was reached there were first encountered the overlapping upper end of the lower fragment, which was obliquely split in the axis of the shaft downwards about three inches, and a large piece of bone, apparently belonging to the end of upper fragment, which was loosely attached to soft tissues surrounding it. This was removed, and then the end of lower fragment could be protruded through the incision, so as to allow a chain saw to be easily passed around it, and three and a quarter inches to be excised. After doing this the complete extent of the injury was manifest, for the two large portions of bone, now removed, had before occluded the extensive comminution of the bone, which was found to exist at the inner aspect of the shaft. A large number of pieces of bone loosely attached were now removed, and finally the lower end of the upper fragment, which was also found to be split obliquely to the extent of two inches, was excised with the chain saw, so that five and a quarter inches of the shaft

were removed, which was comminuted to the amount of twenty-eight pieces of bone, all of which were of considerable size. The patient died six hours after operation. The points of pathological interest in this case appear to me to be the following:—First, the extensive comminution of the bone when considering the course of the bullets. Second, the favorable condition of the patient forty-four days after receipt of injury, when considering also the ordeal he had passed through; and third, the orifice of exit of bullet, which being in more direct communication with the comminuted fragments, should have healed, and thus explorations through the orifice of entrance would not detect the entire extent of injury; and finally, the local appearances and conditions were so slightly indicative of such an extensive injury.

SPECIMENS OF GUNSHOT WOUNDS.

Dr. Conant presented several specimens of gunshot wounds of bones. The first was a portion of the upper part of the tibia, removed by amputation from a member of the 13th Mississippi regiment. The wound was inflicted at the battle of Antietam, the ball entering the cancellated structure of the head of the tibia, through the ligamentum patellæ, and penetrating the joint. The patient was seen on the Monday following the day of the battle (Wednesday) by Dr. Conant, who, contrary to the opinion of several Confederate surgeons present, thought that the joint was injured. After considerable subsequent consultation all the surgeons consented to the performance of amputation, which proved the correctness of the diagnosis.

The second specimen was the upper portion of the os brachii, removed by shoulder-joint amputation from a member of one of the Louisiana regiments, who had been wounded in three places in the left arm, one through the wrist-joint, one through the elbow-joint, and one through the shaft of the os brachii immediately below the head of the bone. The patient being in a very low condition at the time Dr. Conant saw him, the axillary artery was first tied. The operation was then proceeded with in the usual way.

The third specimen consisted of portions of the humerus removed by exsection from the arm of a member of the 8th Georgia regiment. The ball entered about two inches below the shoulder-joint, shattering it very extensively. It was thought best to have amputation at the shoulder-joint performed, but Dr. Conant, finding the artery uninjured, proposed exsection of the joint. The consent of the Confederate surgeons being obtained for such a procedure the splinters of bone were removed, and a line of fracture being found through into the joint, the head of the bone was removed, as also a portion of the shaft consisting of the end of the distal fragment. About one-half of the os brachii was thus removed. The patient made a good recovery. The expectation was that the patient would be able to use his fingers, and have some motion of his forearm.

Dr. Krackowizer referred to a case in which he had exsected four inches of the os brachii, including the head of the bone, with an excellent result. Dr. Conant lastly narrated the following case of wound of the femoral artery from a minié ball. The missile entered the fleshy part of the thigh at its internal aspect, wounding the artery at or near the situation of its entrance into the femoral sheath. A tourniquet had been applied from Wednesday until Sunday, when Dr. Conant ligated the vessel. In the course of four or five days secondary hæmorrhage came from the original wound, i.e. from the place of entrance of the bullet. Dr. Clark of Boston, who was present at that time, proposed ligation of the external iliac, which he proceeded to do ten days after Dr. Conant left; the patient, however, survived the operation only twenty-four hours. The question arose in Dr. Conant's mind—Whether it would not have been better to have amputated the thigh at once when hæmorrhage recurred?

Dr. Post was inclined to favor a ligation of the femoral at first, as was done by Dr. Conant, and if that failed, to control the hæmorrhage to amputation.

Dr. Krackowizer concurred in that opinion.

Dr. Post in that connexion related the following case which occurred in the practice of Dr. Mott some years ago in the N.Y. Hospital. Dr. Post was house-surgeon to the institution at the time. A patient was operated upon for wound of the tibial artery by ligature of that vessel; secondary hæmorrhage occurring, and continuing at longer or shorter intervals, the femoral and external iliac were then successively ligated, when finally it was proposed to tie the primitive iliac. While the consultation was being held to determine that point, hæmorrhage occurred to such an extent that the idea of operating was abandoned. The patient, however, rallied from the threatened collapse, and two weeks subsequently was able to elope from the hospital.

American Medical Times.

SATURDAY, MAY 23, 1863.

THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The approaching meeting of the American Medical Association must be regarded with unusual interest. Under any circumstances the gathering of the representatives of the medical profession of the United States in council must be viewed in the light of no ordinary event. During the twelve years of its active existence every meeting of the Association exerted a most powerful influence upon the character of American medicine. In localities where these meetings were held a new and upward impulse was given to the profession; communities were most favorably impressed with the assembled delegations, and with the dignified sessions of that body. The resident members received a new stimulus; and their position, socially as well as professionally, was rendered more worthy the high character of their calling.

The Association also improved the tone of the profession at large by the adoption and enforcement of many salutary regulations. The code of ethics, a system of medical morals which embraces the wisest maxims of the past and the most ennobling sentiments of the present, has bound in one fraternity all ranks and classes of the profession. It is the constitution of the republic of medicine, to which every one, however exalted or however humble, must conform. Medical education was made the subject of constant discussion, and the schools were forced to adopt many reforms, which have already given a more thoroughly educated class of graduates. A large number of questions of an ethical and scientific nature have been so far settled as to give a permanent direction to professional conduct and to investigation and observation. The systematic study of the climatology and diseases of the United States, which had been carried on with so much zeal, and the accumulation of these valuable reports in the annual transactions, promised most important results. By other means, and by multitudinous influences, the Association was elevating the standard of the profession. It was in the full tide of success when its sessions were discontinued in consequence of the universal preoccupation of the medical mind with our national affairs.

On renewing its annual sessions, we trust that the Association will not in the least depart from its former settled policy of discussing freely every subject which affects the welfare of the profession. It should stamp, as in the past, with the seal of its approbation whatever will advance and ennoble American medicine, and condemn by positive enactments every unworthy and unprofessional measure. Let it continue to be the National Medical Congress, whose statutes are binding upon every member alike. Vast interests are still committed to its care, which it must wisely manage if it fulfils its mission. Medical education, the very basis of all professional excellence, is to be regulated only by the Association. It is vain to anticipate any independent movement on the part of the schools. They will never voluntarily require a proper primary education and institute a preliminary examination to determine whether the student is qualified to enter upon his studies. They will never lengthen the term of study, or give greater breadth and scope to the course of instruction, without the propulsion of the profession acting in its organized capacity. The Association should not fail to maintain its jurisdiction in all matters pertaining to medical education. Let it reassert the propositions which it adopted at its last session, and enforce compliance with them. The Association should encourage local societies, especially state and county medical organizations. On the integrity and activity of the latter depend the power and the widely extended influence of the former. It should regulate in a certain degree our medical literature, by encouraging the preparation of original works, and discourage the republication of ordinary inferior treatises. The propriety of an international copyright should be discussed by the Association in its bearings upon our literature. It should prosecute with renewed energy the investigations into the climate, epidemics, and endemics of the country, which have already yielded important conclusions.

To the subjects above mentioned, which must occupy the attention of the Association, we have to add, finally, those which grow out of the relations of the profession to the army and navy, and the great national struggle which is now in progress. During the present war the Association has contributed powerfully to sustain the national cause Its members have been called to fill responsible positions in the army and navy, and we recognise them in every department of the public service, from the Surgeon-General to the humblest physician in the most distant hospital. In the reunion which is about to take place, the army and navy should be well represented. The Association may thus be made subservient to that cordial relation which should ever exist between the profession in the public service and in civil life. The medical department of the army, in its new organization, is a powerful auxiliary to the Association in maintaining the high position of legitimate medicine in this country, and deserves its cordial endorsement and support. Every species of charlatanism is carefully excluded from the public medical service, and the utmost encouragement is given to high professional qualification. The questions for scientific inquiry which the war will suggest are innumerable, and should lead to the formation of a sufficient number of committees to cover the whole field. Of these, that which relates to recruiting should not be lost sight of by civil practitioners, who now have an opportunity to study this subject to great advantage.

We have thus briefly alluded to the past history of the Association, its present position, and its future mission, and the subjects that may engage its sessions, to remind members, and especially delegates, of their duties and obligations to this great central society. It is of vital importance that this Association be maintained on its original basis, and that no irrelevant issues be raised which shall weaken its organization. Loyalty to a rightfully constituted Government is the duty of the citizen of every rank and grade, and should be affirmed by a body representing the most loyal, patriotic, and influential profession in the country; and the same sentiment should govern it at this time in the selection of its officers for the ensuing year.

THE WEEK.

We have before alluded to the necessity of an organization in this city for supplying poor maimed persons with surgical appliances gratuitously. This class of the poor is very large. There are many who are rendered helpless for life by their inability to purchase the requisite instruments to remedy their disabilities, who, if supplied, might become self-supporting. Certain disabilities, as hernia, are entirely disregarded until they become formidable affections, which the existence of such a society would tend to prevent. In London there are several organizations of this kind, which are effecting a vast amount of good. One Society alone relieved more than 163,000 cases of rupture by the application of trusses.

We are very glad to hear that the *Association for the Relief of the Poor* of this city has taken up the subject, and organized the *New York Society for the Relief of the Ruptured and Crippled.* It is under the direction of the Association; and if its daily details are conducted by competent persons, it will become a powerful auxiliary to this excellent Charity in the relief of the poor. The office is located at 97 Second Avenue, and the medical officers are—Resident Physician and Surgeon, James Knight, M.D. Consulting Surgeons: Drs. Mott, Van Buren, Parker, and Carnochan.

A Catalogue of the Army Medical Museum, at Washington, has recently been issued, prepared by Dr. J. H. Brenton, Curator, and Dr. Wm. Moss, Assistant Curator, from which it appears that on January 1, 1863, the collection comprised 1,349 objects. Of these 985 were surgical specimens, 106 were medical, 5,133 were missiles which have for the most part been extracted from the body. The latter class includes round and conical bullets, shot, grape, canister, fragments of shell, arrows, arrow-heads, etc. This catalogue is but a numerical list of the objects thus far collected. The work of classification and detailed description will be the labor of time, and will fill volumes if put on record. The establishment of this great Army Medical Museum is one of the noblest enterprises to utilize the results of the present war, and render its sad lessons instructive and useful to future generations, which has yet been undertaken. It will remain an enduring monument to the enlightened zeal and energy of Surgeon-General Hammond, and all associated with him in laying its present broad foundations. Every surgeon connected with the army or with its hospitals, should carefully preserve all pathological specimens, and forward them with accurate histories to the Curator. The name of each contributor appears in the catalogue in connexion with the specimen.

Army Medical Intelligence.

REPORTS ON THE USE OF BROMIDE IN HOSPITAL GANGRENE, ETC.

WASHINGTON, D.C., April 16, 1863.

I have the honor to report that I left Washington city on Saturday, 28th ult., in obedience to the following order:

SURGEON-GENERAL'S OFFICE,
WASHINGTON, D.C., March 28, 1863.

Surgeon J. H. Brinton, U.S.V., will proceed without delay to Louisville, Ky. He will visit the different U.S.A. hospitals in that city, and investigate the character of the Hospital Gangrene, Pyæmia, and Erysipelas alleged to be there prevailing. He will inquire into the different modes of treatment employed, and report as to their efficiency. If he deems it advisable, he will proceed to Nashville under the same general instructions. Having fulfilled these orders he will return to this city, and resume his duties in this office.

By order of the Surgeon-General,
JOS. R. SMITH,
Surgeon U.S.A.

On my arrival in Louisville I called on Surgeon M. Goldsmith, U.S.V., the Medical Director of the Louisville Hospitals. In company with him I visited the principal military hospitals in the city and vicinity, and carefully examined the various cases of hospital gangrene and erysipelas therein contained. The type of the former affection at the period of my visit was somewhat similar to that which I had previously observed in the U.S.A. General Hospitals at Annapolis, but although of analogous form the disease did not appear to me to be of so virulent a grade; whether this was due to the original character of the affection, or to the effect of the remedial measures employed, I am not prepared properly to decide. Nearly all the cases observed by me were in the stage of reparation, and but very few in the period of progress. The shape of the ulcers was characteristic, as was also the appearance of the grey slough, but the tendency of the sores to burrow deeply, and to extend rapidly, was not well marked at the time I examined the cases, some thirty in number.

The treatment almost universally adopted in the Louisville hospitals is that originated and introduced by Surgeon Goldsmith, U.S.V. It consists in the direct local application of bromine, either pure or in solution, to the surfaces of the sloughing sore. Due care is always taken first to remove as thoroughly as possible the sloughs, so that the agent may act on the living tissues, and permeate them to some extent. In cases in which the burrowing is so extensive and deep-seated as to render the application of bromine difficult or incomplete, Dr. Goldsmith resorts to hypodermic injections of bromine at the circumference of the sore. The punctures with the point of the syringe are made at intervals of from one-half to three-fourths of an inch, and one drop of pure bromine is thrown into the tissues at each application. The mode of dressing the surface of the sores with the bromine was exhibited to me by Dr. Goldsmith. From my observation of the immediate effect of the reagent upon the diseased tissues, and of the condition of the sores upon which it had been previously applied, I am inclined to look upon the remedy as one of great value, and well deserving of a fair and extended trial.

Surgeon Goldsmith declared to me that in forty-eight hours the specific character of any sore, the result of hospital gangrene, can be destroyed by a thorough use of the bromine. The arrest of the virulent process is at once evinced by the absence of the peculiar odor, and by the marked change for the better which immediately ensues in the constitutional symptoms.

From conversation with Surgeon Goldsmith I inferred that he regarded hospital gangrene as essentially a local affection, and that as soon as a decided local impression is produced upon the sore all danger to life is averted.

The whole number of cases of hospital gangrene treated in the Louisville hospitals up to this time amounts to eighty-eight. But two deaths have occurred, and in these instances the disease was complicated with a very extensive inflammation of the cellular tissue.

I would remark that in the Louisville hospitals but little tendency has been observed in the disease to spread from bed to bed, although isolation of the gangrenous patients has not been enforced. In my own judgment the absence of this tendency to infection tells strongly against the supposed virulence of the affection, and should even throw doubts on its true nature, at all events in some instances. Assuming the disease, however, to be the veritable hospital gangrene, the facts connected with its origin were peculiar. The disease occurred almost always in patients who had been wounded at the battle of Murfreesboro, and who had been retained in crowded hospitals for some time previous to their transportation to Louisville. I am informed by Surgeon Thurston, U.S.V., Medical Director of the Nashville hospitals, that no one upon whom the gangrene had already appeared was ever sent from Nashville, and yet many were so infected when admitted to the Louisville hospitals. The development of this disease on the route seems to have been owing to the fact that the transportation of the wounded was effected by means of crowded and ill ventilated boats, and that the trip by the Cumberland and Ohio rivers frequently ocupied several days. During this time these patients, who had already undergone much suffering, were exposed to all the influences most apt to engender this disease. In contrast with this fact it was found that, as soon as the Louisville and Nashville Railroad was opened, so that the wounded could be conveyed from city to city in one day, all importation of gangrenous sores into Louisville ceased. The development of hospital gangrene during the boat transportation is a noticeable fact, and is strikingly analogous with the same phenomena observed among our paroled wounded prisoners from Richmond, received into the Annapolis General Hospital some months since.

Erysipelas.—Two hospitals are especially set apart for this disease in Louisville (Nos. 19 and 20), both at some distance from the city, and originally country residences. These buildings are located on rising grounds, are well ventilated, and are tolerably well suited for their present purposes. All cases of erysipelas occurring in the city are at once sent thither, and strict isolation is enforced.

The whole number of cases of erysipelas treated at Louisville was two hundred and twenty-eight, of these ninety-seven were treated in Hospital No. 19, one hundred in Hospital No. 20, and thirty-one cases in Hospitals Nos. 4, 8, and 10. Out of the whole number fifty-one died, and one hundred and seventy-seven recovered.

Treatment.—In the application of bromine to the treatment of erysipelas two different methods were employed: first, by the action of the vapor of bromine in the affected part; second, by a direct application to the erysipelatous surfaces of a solution of bromine of varying strength. In the first method the part affected was enveloped in dry lint, a cloth saturated with pure bromine was then applied over this, and the whole dressing covered with a piece of oiled silk. The only objection to this treatment was the tendency of the bromine to blister the skin by soaking through the intervening layer of the lint. The other mode of using the bromine is to apply directly to the inflamed integuments a solution of the bromine and bromide of potassium, of the strength of from fifteen to forty drops of the former to an ounce of water. An ample opportunity was afforded me to observe the results of this treatment in the disease in question, and I have no hesitation in pronounc-

ing it one which, so far as I have seen, is of the greatest value.

Having finished my observations of erysipelas and hospital gangrene in Louisville, I proceeded to Nashville and placed myself in communication with Surgeon Thurston, U.S.V., Medical Director of hospitals in that city. With him I visited all of the principal hospitals, and among others the one appropriated to the reception of cases of erysipelas and hospital gangrene. I learned that the reports as to these diseases in Nashville had been much exaggerated. The whole number of cases of gangrene which had occurred since the battle of Murfreesboro has not exceeded twenty, and of these but six remained, all in progress of recovery.

The treatment followed in the Nashville hospitals consisted of applications of bromine, and the use of nitric acid in the ordinary manner. Dr. Thurston informed me that the latter treatment was preferred, and had, he thought, yielded the most successful results. It did not seem to me, however, that the bromine treatment, as practised in Nashville, was as thorough and effective as that pursued under the immediate supervision of Dr. Goldsmith.

Erysipelas in Nashville.—The number of cases of erysipelas following the battle of Murfreesboro averaged about sixty until recently. At the time of visit that number had fallen to twenty, and all were tending towards recovery. All cases of disease were isolated on their first appearance in a hospital set apart for the purpose, under the charge of Asst. Surgeon Brown, U.S.A. This building was clean, well ventilated, and well managed. At the first outbreak of the affection several deaths had occurred in patients severely wounded.

I was informed by the Medical Director that at present the disease was tractable, and yielded readily to therapeutic measures.

The treatment found most efficient, and which was almost universally adopted, was the local use of the bromine as already described; for constitutional remedies dependence was placed on iron, bark, tonics, full diet, etc.

Leaving Nashville I proceeded to Murfreesboro. The hospital gangrene, which at one time had been there rife and destructive, had almost disappeared; but few cases remained, and were convalescent.

The bromine treatment had been freely employed, but with varying results. I observed that its strongest advocates were those medical officers who had been previously stationed in Louisville, and who had been instructed in its use by Surgeon Goldsmith.

In conclusion, from a careful investigation of the cases in hospital at the time of my visit to the cities above mentioned, I would remark:—

1st. That the external employment of bromine in the treatment of hospital gangrene has been attended in Louisville with the most marked and beneficent results.

2d. That I have not observed that any injurious consequences whatever have resulted from its application, but the contrary.

3d. That all the medical officers with whom I have conversed in Louisville, Nashville, and Murfreesboro, unite in testimony as to the valuable therapeutic powers of bromine in the treatment of erysipelas: my own observation fully confirms their views.

4th. That as a disinfectant the use of bromine in hospital wards, and especially in hospitals intended for the reception of infectious diseases, is to be recommended, and is eminently deserving of further trial.

It will be observed that in the above report I have not alluded to the subject of pyæmia. In explanation, I will state that I did not meet the disease in any of the hospitals I visited. I was informed that the pyæmic affection had not existed to any great extent; at all events, to an extent unduly proportioned to the number and gravity of the wounds following the Murfreesboro battle. Full reports, however, of the affection, as it did prevail, are in process of preparation, and will be submitted to you when received.

I have the honor to be
Very respectfully,
Your obedient servant,
JNO. H. BRINTON,
Surgeon U.S.V.

W. A. HAMMOND,
Surgeon-General U.S.A.
WASHINGTON, D.C.

GENERAL ORDERS, No. 52.

HEADQUARTERS, ARMY OF THE POTOMAC.
Camp near Falmouth, Va., May 15, 1863.

THE suggestions contained in the following extract from a communication from the Medical Director of this Army will be strictly observed by all concerned, and it is made the duty of corps and other independent commanders, as well as of officers of the Inspector General's Department, to enforce a compliance with the same.

By Command of Major-General HOOKER.

S. WILLIAMS,
Asst. Adjutant-General.

OFFICIAL:

HEADQUARTERS, ARMY OF THE POTOMAC.
Medical Director's Office.
Camp near Falmouth, Va., May 12, 1863.

GENERAL:

* * * * * * *

In the selection of camping ground, that should be selected which has not heretofore been occupied by troops, but new ground, and that which has natural drainage; all low-lying and bottom lands, and lands in the vicinity of stagnant water, should be avoided. Every camp should be thoroughly ditched by main ditches 18 inches deep, and the ground around the tents drained by ditches leading into the main ditches of the camp. Camps should, whenever possible, be pitched in the vicinity of running streams or of living springs, and the use of surface water, or that from holes dug two or three feet in the ground, should by all means be avoided. Camps should not be formed in the woods, but upon the open ground, where a full and free exposure to the sun and air can be obtained, and the tents should be pitched *upon* the ground, and in no case should men be permitted to excavate the earth underneath them; nor should the distance between the tents be less than that required by the Regulations. The tents should be struck twice a week, and the ground over which they have been pitched exposed to the direct rays of the sun and to the winds, and if possible, they should be placed upon new ground, if only a few feet distant, once a week. The troops should be required to procure the small boughs from the pine tree and spread them thickly upon the ground covered by the tents, and should renew them every week; these will keep them from sleeping on the ground, which they should not be permitted to do.

The cooking, especially when in camp, should be done by companies, and not by individuals or by squads, and for this purpose two men should be detailed from each company as cooks, one relieved every month, thus allowing each one detailed to be on this duty for two months.

The importance of police, general and personal, cannot be too highly regarded. The blankets and bedding of the men should be removed from the tents and exposed to the sun and air daily, when the weather will permit. Every tent, and the grounds in and about and between the camps, should be thoroughly policed daily, and all refuse matter and filth of whatever kind be buried at least three feet under-ground. All dead animals, all offal and blood from slaughtered animals, should be at once buried at least four feet beneath the surface; and the refuse matter from stables and wagon yards should be buried two feet under ground, or burned. In every camp sinks should be dug and used, and the men on no consideration allowed to commit any nuisance anywhere within the limits of this

Army. The sinks should be eight feet deep if the ground will permit, and have earth to the depth of six inches thrown in every evening, and when filled within three feet of the surface, be entirely filled up with earth, and new ones dug. No one thing produces a more deleterious effect upon the health than emanations from the human body, especially when in process of decay; and this one item of police should receive especial attention.

Holes should be dug near each company kitchen, in which should be cast all the refuse matters from it, and when filled to within two feet of the surface, they should be filled with earth, and new ones dug.

The men should be required to wear their hair cut short, bathe twice a week, and put on clean under-clothing at least once a week. The troops should have their breakfast as soon as they rise.

Spasmodic efforts in a matter of such paramount importance as police can be of no service, and I recommend that regimental and other commanders be required to see that these suggestions, if they meet the approval of the Commanding General, be fully and continuously carried into effect.

I am, General,
Very respectfully, your obedient servant,
JONA. LETTERMAN,
Medical Director.

Brigadier General S. WILLIAMS,
Asst. Adjutant General,
Army of the Potomac.

(CIRCULAR NO. 6.)

SURGEON-GENERAL'S OFFICE,
WASHINGTON, May 4, 1863.

I. From the reports of medical inspectors and the sanitary reports to this office, it appears that the administration of calomel has so frequently been pushed to excess by military surgeons as to call for prompt steps by this office to correct this abuse; an abuse the melancholy effects of which, as officially reported, have exhibited themselves not only in innumerable cases of profuse salivation, but in the not infrequent occurrence of mercurial gangrene.

It seeming impossible in any other manner to properly restrict the use of this powerful agent, it is directed that it be struck from the Supply Table, and that no further requisitions for this medicine be approved by medical directors. This is done with the more confidence as modern pathology has proved the impropriety of the use of mercury in very many of those diseases in which it was formerly unfailingly administered.

II. The records of this office having conclusively proved that diseases prevalent in the Army may be treated as efficiently without tartar emetic as therewith, and the fact of its remaining upon the Supply Table being a tacit invitation to its use, tartar emetic is also struck from the Supply Table of the Army.

No doubt can exist that more harm has resulted from the misuse of both these agents, in the treatment of disease, than benefit from their proper administration.

W. A. HAMMOND,
Surgeon-General.

SPECIAL ORDERS, No. 197.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,
WASHINGTON, D. C., May 1, 1863.

3. The following officers (published officially March 18, 1863), having failed to make satisfactory defence before the Military Commission, instituted by S. O. No. 58 current series from the War Department, as to the charges against them, and now set opposite their respective names, stand dismissed the service of the United States, to date March 18, 1863.

Absence without proper authority:

Surgeon J. D. Hewett, 107th New York Volunteers. Assist. Surgeon S. M. Hand, 137th Penn. Vols. Assist. Surg. Jas. A. Reed, 69th N. Y. Vols.

The following for accepting bribes for procuring discharge of soldiers:

Assist. Surgeon J. P. Alcorn, 126th Ohio Vols.

By order of the Secretary of War,
E. D. TOWNSEND,
Assistant Adjutant-General.

SPECIAL ORDERS, No. 199.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,
WASHINGTON, May 2, 1863.

9. The following assignments are made of medical officers:—

Assistant Surgeon J. R. Gibson, U.S.A., now on duty in General Hospital at Annapolis, Md., to report to the Commanding Officer (Lt.-Col. G. D. Ramsey) at the Washington Arsenal, Washington, D. C.

Surgeon Charles H. Crane, U.S.A., when relieved as Medical Director, Dep't of the South, to repair to New York City, and to report from thence by letter to the Surgeon-General.

Assist. Surgeons Philip Harvey and H. W. Kendall, U.S.V., to report in person to Major-General Grant, commanding Dep't of the Tennessee, and by letter to the Assist. Surgeon-General at St. Louis, Mo.

Assist. Surgeon William Thelkeld, U.S.V., to report in person to Major-General Rosecrans, commanding Dep't of the Cumberland, and by letter to the Assist. Surgeon-General at St. Louis, Mo.

Assist. Surgeon Frank Meacham, U.S.V., to report in person to Major-General Burnside, commanding Dep't of the Ohio, and by letter to the Assist. Surgeon-General at St. Louis, Mo.

13. Satisfactory evidence having been produced to show that the disability for which Assist. Surgeon T. S. Treadway, 27th Connecticut Vols., was discharged, did not exist before entering the service, paragraph 4 of Special Orders No. 188, is amended accordingly.

By order of the Secretary of War,
E. D. TOWNSEND,
Assistant Adjutant-General.

SPECIAL ORDERS, No. 203.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE
WASHINGTON, May 5, 1863.

13. Surgeon Desault Guernsey, 174th New York Vols., having tendered his resignation, is hereby honorably discharged the service of the United States, to date April 5, 1863, his leave of absence having expired that date.

17. The following assignment of medical officers is made:—

Assist. Surgeon J. H. Currey, U.S.V., to report for duty to Surgeon Josiah Simpson, U.S.A., Medical Director at Baltimore, Md.

Asst. Surgeon John Bradley, U.S.V., to report in person to Major-General Grant, commanding Dep't of the Tennessee, and by letter to the Assist. Surgeon-General at St. Louis, Mo.

Assist. Surgeon H. T. Legler, U.S.V., to report in person to Major-General Rosecrans, commanding Dep't of the Cumberland, and by letter to the Assistant-General at St. Louis, Mo.

Surgeon Charles Mayo, U.S.V., now on duty in this city, to report in person to Major-General Grant, commanding Dep't of the Tennessee, and by letter to the Assist. Surgeon-General at St. Louis.

24. Permission to remain in Washington city for ten days, under medical treatment, is hereby granted Assist. Surgeon John W. Williams, U.S.A.

By order of the Secretary of War,
E. D. TOWNSEND,
Assistant Adjutant-General.

SPECIAL ORDERS, No. 204.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,
WASHINGTON, May 6, 1863.

10. The following officers having been pronounced incompetent to perform their duties by a Medical Board of Examiners, convened by Special Orders 96, current series, Army of the Potomac, are hereby discharged the service of the United States:—

Assist. Surgeon Michael Thompson, 83d Pa. Vols; Assist. Surgeon Geo. W. Bowen, 16th Michigan Vols; Assist. Surgeon James S. Bradish, 116th New York Vols.

11. Surgeon N. P. Monroe, 20th Reg. Maine Vols., having declined submitting to an examination by a Medical Board of Examiners, convened by Special Orders 96, current series, Headquarters Army of the Potomac, is hereby discharged the service of the United States.

By order of the Secretary of War,
E. D. TOWNSEND,
Assistant Adjutant-General.

SPECIAL ORDERS, No. 207.

WAR DEPARTMENT, ADJ. GEN'L'S OFFICE,
WASHINGTON, May 8, 1863.

5. The following assignments of medical officers are hereby made:—

Assist. Surgeon William F. Breakey, 16th Michigan Vols., now on duty in one of the hospitals at Alexandria, to join his regiment without delay.

Medical Storekeeper Hennel Stevens, U.S.A., now on duty at Cairo, Ill., and not needed there, to proceed to Memphis, Tenn., to relieve Assist. Surgeon Joseph P. Wright, U.S.A., in his duties as Medical Purveyor at that place, the latter on being relieved to report to Major-General Grant for orders.

Assist. Surgeon Etienne Vaudry, Independent Battalion, New York Vols., now in New York examining recruits, to join his battalion without delay.

Surgeon Francis Bacon, U.S.V., now on duty in this city, to report for duty to Major-General Banks, commanding Department of the Gulf.

7. Captain C. P. Bergen, 61st New York Vols., having shown a want of appreciation for the honorable position of a captain in the army, by applying for the position of hospital steward, is hereby dishonorably dismissed the service.

10. Assist. Surgeon R. S. McGee, 100th Reg. Indiana Vols., is hereby dismissed the service of the United States, he having been a convict in the Illinois State Prison, on the charge of robbery and counterfeiting.

19. Hospital Steward Charles Mott, U.S.A., is hereby honorably discharged the service of the United States, to enable him to accept a clerkship in the Office of the Medical Purveyor, New York.

By order of the Secretary of War,
E. D. TOWNSEND,
Assistant Adjutant-General.

METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK.

Abstract of the Official Report.

From the 11th day of May to the 18th day of May, 1863.

Deaths.—Men, 124; women, 109; boys, 132; girls, 126; total, 491. Adults, 233; children, 258; males, 256; females, 235; colored, 12. Infants under two years of age, 159. Children born of native parents, 22; foreign, 196.

Among the causes of death we notice:—Apoplexy, 4; infantile convulsions, 34; croup, 16; diphtheria, 15; scarlet fever, 19; typhus and typhoid fevers, 18; consumption, 71; small-pox, 0; measles, 4; dropsy of head, 17; infantile marasmus, 24; cholera infantum, 5; inflammation of brain, 26; of bowels, 17; of lungs, 37; bronchitis, 8; congestion of brain, 0; of lungs, 0; erysipelas, 3; diarrhœa and dysentery, 22. 242 deaths occurred from acute diseases, and 45 from violent causes. 300 were native, and 191 foreign; of whom 124 came from Ireland; 62 died in the City Charities; of whom 14 were in Bellevue Hospital, and 12 died in the Immigrant Institution.

Abstract of the Atmospherical Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

May 1863	Minimum Temperature	SIX A.M.			TWO P.M.				TEN P.M.			
		Temperature.	Evaporation Below.	Barometer.	Wind.	Temperature.	Evap. Below.	Barometer.	Wind.	Temperature.	Evap. Below.	Barometer.	Wind.
	°	°				°				°			
10th.	52	54	5	30.00	W.	70	9	30.01	S. by E.	60	4	30.02	S.E.
11th.	58	60	4	30.05	S.W.	83	9	30.07	S.W.	70	6	30.10	S.W.
12th.	60	65	6	30.08	S.W.	84	10	30.04	S.W.	64	4	30.03	S.W.
13th.	57	60	5	30.03	S.W.	70	8	30.02	E.	62	½	30.00	N.E.
14th.	38	54	2	29.96	N.	60	4	29.90	N.E.	38	2	29.85	N.E.
15th.	40	40	4	29.84	N.W.	67	11	29.88	W.	57	7	29.98	W.
16th.	53	54	5	29.98	S.E.	65	10	29.99	S.E.	58	4	29.98	S.E.

REMARKS.—10th, Clear A.M., cloudy eve. 11th, Clear. 12th, Clear; rain with lightning and thunder late in the evening. 13th, Hazy A.M., light rain evening. 14th, Light rain. 15th and 16th, Clear, with fresh wind. Rain for the week, half an inch.

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" 25 " " " 13 "
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" 35 " " " 52 "

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